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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,590	11/13/2003	Michael A. Yandrasits	59390US002	8997
32692	7590	03/11/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			MCCLENDON, SANZA L	
PO BOX 33427			ART UNIT	PAPER NUMBER
ST. PAUL, MN 55133-3427			1711	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/712,590

LD  
Applicant(s)

YANDRASITS ET AL.

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-22, 28-32, 36-51, 57 and 58 is/are rejected.
- 7) ☒ Claim(s) 4-6, 23-27, 33-35 and 52-56 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/05 and 4/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-3, 7-22, 28-32, 36-51 and 57-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 and 23-43 of copending Application No. 10/733,211. 10/733,211 teaches methods of making crosslinked polymers wherein said polymer substantially overlap in scope with the instant invention. The primary difference in the methods is the form of radiation used in the crosslinking step (b)—electron beam in the instant invention and ultra-violet for 10/733,211. However, the examiner deems one of ordinary skill in the art would have found it obvious to prepare a crosslinked polymer using electron beam irradiation from the method of 10/733,211. The motivation would have been a reasonable expectation of obtaining a crosslinked membrane without residual photoinitiator, which are

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known additives in ultraviolet radiation curing, in the final product in the absence of evidence to the contrary and/or unexpected results.

This is a provisional obviousness-type double patenting rejection.

3. Claims 1-10, 13-15, 18-20, 23-25, 28-39, 42-49, 52-54 and 57-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-38 of copending Application No. 10/712,361 in view of JP 54-052690. Although the conflicting claims are not identical, they are not patentably distinct from each other because they overlap in scope. The difference between the instant claims and the copending application is the defined second pendent groups and the backbone derived from tetrafluoroethylene in the instantly claimed polymer (a). However, the polymer of 10/712,361 is taught to be a highly fluorinated or more typically perfluorinated and the backbone may comprise units from tetrafluoroethylene and units derived from comonomers. In addition 10/712,361 does not positively exclude a second pendent group, such as Br, Cl, or I. The prior art, such as JP 54-052690, teaches making similar highly fluorinated co-polymers using fluorinated monomer having SO<sub>2</sub>X groups, vinyl-ether monomers comprising halogens, such as iodine, and fluorinated olefins, such as trichlorotrifluoroethylene. Therefore it would have been obvious for an artisan to prepare crosslinked polymers comprising a highly fluorinated polymer such as taught by 10/712,361 having a tetrafluoroethylene backbone and having pendent SO<sub>2</sub>X groups and halogen groups, such as iodine from the teaching of JP 54-052690. The motivation would have been a reasonable expectation of obtaining a fluorine-containing cation exchange membrane with improved properties and electrochemical properties, such as suggested by JP 54-052690.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### *Claim Rejections - 35 USC § 103*

4. Claims 1-2, 7-9, 13-14, 28-31, 36-38 and 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asawa et al (JP 54-052690).


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Asawa et al teaches improved fluorine-containing cation exchange membranes. Said membranes are obtained by casting and then crosslinking a fluoro-polymer using radiation. Said polymer is prepared by copolymerization of an iodine-containing vinyl-ether, a fluorinated olefin, and a fluorine-containing monomer having an ion exchange group or functional group convertible to an ion exchange group. Per the abstract general formulas for the iodine containing vinyl ether, fluorinated olefin, and the fluorine-containing monomer can be found, wherein the polymer obtained from copolymerization appear to read on the fluorinated fluoropolymer as described in instant claim 1. Asawa et al does not expressly teach crosslinking said fluoropolymer once cast into a membrane with electron beam irradiation. However, the examiner deems that it would have been obvious for an ordinarily skilled artisan at the time of the invention to crosslink using electron beam irradiation. The motivation would have been a reasonable expectation of obtaining a crosslinked membrane without residual photoinitiator, which are known additives in radiation curing, in the final product in the absence of evidence to the contrary and/or unexpected results.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sanza L McClendon 3/6/00

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